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SAWING IRON; AND PAINTED IRON CHIMNEY-PIECES, TO REPRESENT MARBLE.

Messrs. Millington and Co. at the Foundry at Hammersmith, lately tried the experiment of sawing cast-iron at a red heat, with a common saw. A bar of an inch and a half diameter was sawed through in the time of a similar piece of oak, and without prejudice to the saw. Simple as is the process, it is of the utmost consequence to the general introduction of cast-iron into buildings, since it now appears that it may be cut like timber to any required lengths and dimensions.

The same ingenious manufacturers have lately invented a mode of painting iron in imitation of the most costly marbles, for chimney-pieces, and other architectural ornaments. The similarity is so close as to challenge the most accurate inspection. The beauty of the finest marbles is thus happily combined with the strength and durability of cast iron.

Experiment on the existence of Miasmata.

Messrs. Thenard and Depuytren, within these two or three years, made an experiment which has thrown considerable light to the existence of *miasmata*. They agitated distilled water with hydrocarbonated gas extricated from mineral substances. This water exposed to the air and allowed to stand, was not disturbed, and gradually got rid of its hydrogen gas without being corrupted. The same experiment made with hydro-carbonated gas coming from animal putrefaction presented another result. The water became turbid, it contained flakes of a substance truly animal, which was precipitated on being allowed to rest, and the liquid was putrefied. Thus, although the gas was the same to the eyes of the experimenter, the latter contained manifestly *miasmata*, which gave rise to the flakes observed, and to the putrefaction of the water. M. Moscati, an eminent Italian physician, has made similar and equally interesting experiments. Having observed that the cultivation of rice, in the humid rice grounds of Tuscany, was annually attended with epidemic dis-

eases and adynamic fevers, he conceived the idea of ascertaining the nature of the vapours which rose from the ground where rice was cultivated: with this view he suspended, at some distance from the ground, hollow spheres filled with ice. The vapours were condensed on the spheres in the form of hoar frost. He collected this substance in flasks, in which it melted, and, at first, presented a clear liquid. Speedily it was filled with small flakes, which, when collected and analysed, presented all the characters of an animal matter. The liquid in a short time putrefied. M. Moscati made the same experiment in an hospital, by suspending the glass spheres over several sick persons: it was attended with the same phenomena and the same results. These experiments ought to be repeated and followed up; they might be varied, multiplied, and compared, with a view to elucidate the theory of contagion, which takes place without immediate contact. In this way we might also examine the alteration which *miasmata* undergo, when the nitric or muriatic fumigations are resorted to.

Thomas Hardacre's Patent (Gloicester Place, Mary-le-bone), for a Composition to prevent the Effects of Friction.

The recipe given in this specification is as follows: "One hundred weight of plum-bago, to four hundred weight of pork-lard, or beef suet, tallow, oil, goose-grease, or any other kinds of grease, but pork-lard is the best, which must be well mixed together, and so incorporated as to appear one substance." This composition is to be applied in such a manner, that a sufficient quantity of the composition, to cover the surface slightly over where the bearing acts, will in general be sufficient; but where the bearing is very heavy, or the friction is great, it must not be sparingly used, particularly on steam and other engines; and the quantity to be applied to a piston rod, must be as much as will saturate whatever it is packed with; and in mills, the stone spindles must be boxed up with the composition in the same way.